

Title (en)

Abrasive tool containing coated superabrasive grain

Title (de)

Beschichtetes hochabrasives Schleifkorn enthaltendes Schleifwerkzeug

Title (fr)

Outil de meulage contenant du grain superabrasif revêtu

Publication

EP 0864399 A3 20000510 (EN)

Application

EP 98200600 A 19980225

Priority

US 81314597 A 19970307

Abstract (en)

[origin: EP0864399A2] An abrasive grit for a metal bonded Single Layer abrasive tool includes abrasive grains coated with a first active component. The active component is mechanically-bound to the surface of the superabrasive grains. Preferably the abrasive is a superabrasive, especially diamond, and the first active component is titanium, either in the form of elemental Ti or TiH₂. The novel grit is made by mixing the first active powder component in a liquid binder to form an adhesive paste; mixing the paste with the abrasive grains to wet the grains, and drying the mixture to adhere active component to the grains. The coated abrasive can be brazed onto a core to form a Single Layer tool, especially with a brazing composition that includes a bronze alloy and small concentrations of a second active component. During brazing the novel abrasive grains provide excellent surface contact with the brazing composition and the braze strongly bind the grains to the tool core. The brazed composition is easy to chemically or electrochemically strip from the cores of worn abrasive tools to permit reconstruction of the tools.

IPC 1-7

B24D 3/06; **B24D 11/00**; **B24D 18/00**

IPC 8 full level

B24D 3/00 (2006.01); **B23K 1/00** (2006.01); **B24D 3/02** (2006.01); **B24D 3/06** (2006.01); **B24D 11/00** (2006.01); **B24D 18/00** (2006.01)

CPC (source: EP US)

B24D 3/06 (2013.01 - EP US); **B24D 11/00** (2013.01 - EP US); **B24D 18/00** (2013.01 - EP US)

Citation (search report)

- [A] US 4776862 A 19881011 - WIAND RONALD C [US]
- [A] CA 1086509 A 19800930 - GEN ELECTRIC
- [A] EP 0480878 A2 19920415 - SUISSE ELECTRONIQUE MICROTECH [CH]

Cited by

CN104646852A; CN108908148A; EP1393860A1; US6994614B2; WO2007013947A1; US8795034B2

Designated contracting state (EPC)

AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

EP 0864399 A2 19980916; **EP 0864399 A3 20000510**; **EP 0864399 B1 20040526**; AT E267669 T1 20040615; CA 2227009 A1 19980907; CA 2227009 C 20030429; DE 69824061 D1 20040701; DE 69824061 T2 20050623; ES 2222550 T3 20050201; JP 3080305 B2 20000828; JP H10264034 A 19981006; US 5855314 A 19990105

DOCDB simple family (application)

EP 98200600 A 19980225; AT 98200600 T 19980225; CA 2227009 A 19980115; DE 69824061 T 19980225; ES 98200600 T 19980225; JP 5548898 A 19980306; US 81314597 A 19970307